

Date: Mon, 22 Aug 94 04:30:28 PDT  
From: Ham-Ant Mailing List and Newsgroup <ham-ant@ucsd.edu>  
Errors-To: Ham-Ant-Errors@UCSD.Edu  
Reply-To: Ham-Ant@UCSD.Edu  
Precedence: Bulk  
Subject: Ham-Ant Digest V94 #274  
To: Ham-Ant

Ham-Ant Digest                      Mon, 22 Aug 94                      Volume 94 : Issue    274

Today's Topics:

                    AEA IsoLoop (2 msgs)  
Are you experienced: With CABL-X-PERTS?  
IsoLoop problems anyone?  
MFJ vs. AEA IsoLoop?  
Self-supporting masts  
SG-Smartuner  
Should feedline lengh  
Should feedline length change the VSWR?

Send Replies or notes for publication to: <Ham-Ant@UCSD.Edu>  
Send subscription requests to: <Ham-Ant-REQUEST@UCSD.Edu>  
Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Ham-Ant Digest are available  
(by FTP only) from UCSD.Edu in directory "mailarchives/ham-ant".

We trust that readers are intelligent enough to realize that all text  
herein consists of personal comments and does not represent the official  
policies or positions of any party. Your mileage may vary. So there.

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Date: 21 Aug 1994 20:47:35 GMT  
From: ihnp4.ucsd.edu!swrinde!howland.reston.ans.net!wupost!udel!  
news.sprintlink.net!tequesta.gate.net!inca.gate.net!jrivera@network.ucsd.edu  
Subject: AEA IsoLoop  
To: ham-ant@ucsd.edu

I am moving to a community where the antennas is a (no)^2. But I am planning  
to buy an AEA IsoLoop and set it up in my attic (This is a single story in  
Orlando, FL). I would like to hear your experiences (good and bad) of the  
IsoLoop.

TNXs de Jose  
KP4FMD Orlando, Fl.

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Date: 21 Aug 1994 19:11:01 -0400  
From: ihnp4.ucsd.edu!swrinde!howland.reston.ans.net!sol.ctr.columbia.edu!  
news.kei.com!eff!wariat.org!malgudi.oar.net!swiss.ans.net!newstf01.cr1.aol.com!  
search01.news.aol.com!not-for-mail@@.  
Subject: AEA IsoLoop  
To: ham-ant@ucsd.edu

In article <338eh7\$1sq@tequesta.gate.net>, jrivera@gate.net (Jose Rivera)  
writes:

Well, I have had my ISOLLOOP 2 weeks, and am satisfied with it. I live in  
a condo, and am on the third floor, and I use my ISOLLOOP indoors, and have  
worked both coasts with it. I have experienced RF getting into things  
though, which I hear is common with all indoor antennas.

Jon - KB5IAV

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Date: 21 Aug 1994 22:11:09 GMT  
From: ihnp4.ucsd.edu!swrinde!howland.reston.ans.net!math.ohio-state.edu!  
magnus.acs.ohio-state.edu!csn!yuma!galen@network.ucsd.edu  
Subject: Are you experienced: With CABL-X-PERTS?  
To: ham-ant@ucsd.edu

In article <9408191421.aa14295@COR5.PICA.ARMY.MIL> Waltk@pica.army.mil writes:  
>Howdy. I'm looking for feedback on your experiences with an  
>outfit called CABL-X-PERTS, purveyors of cable and wire.  
>Specifically, they sell 14 GAUGE SOLID COPPERWELD for \$0.06/ft  
>in qtys > 500'. Anyone have any experience with their products?  
>73 de Walt

They're fast shippers. I called them on Monday morning, I had it Thursday  
afternoon (to Colorado).  
I don't know about the #14 wire, but the RG-8 foam hasn't given me any  
problems.  
73, KF0YJ

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Date: Sun, 21 Aug 1994 14:36:26 GMT  
From: ihnp4.ucsd.edu!swrinde!howland.reston.ans.net!wupost!udel!  
news.sprintlink.net!primenet!slip227.primenet.com!dean2@network.ucsd.edu  
Subject: IsoLoop problems anyone?  
To: ham-ant@ucsd.edu

I am a fairly happy isoLoop owner. I have about 87 countries on 10m in 1.5

yrs, two state Novice Roundup (Tech) First places and doing fairly well on IOTA.

But, the antenna case keeps cracking. First it was around the u-clamp attaching it to the mast. One the case was replaced it happened again within a few months. AEA has now added a modification of a metal device so the clamp has more than plastic to press against.

Now the plastic around the end bolts is cracked.

Let me say that AEA has fixed all my problems at no cost to me. I also live in Arizona and it gets up into the high 110's during the summer.

Anyhow, just wanted to see if my experience is an isolated event or not.

73, Dean

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Date: 21 Aug 1994 19:06:02 -0400  
From: newstf01.cr1.aol.com!search01.news.aol.com!not-for-mail@uunet.uu.net  
Subject: MFJ vs. AEA IsoLoop?  
To: ham-ant@ucsd.edu

In article <5BYKkiubGQf7066yn@access.digex.net>, domonkos@access.digex.net (Andy Domonkos) writes:

Andy, thanks for the response, I didn't say I didn't like the antenna, in fact I think it's O.K. The NC ham told me I had a great signal! I do have one complaint, it seems that when I try to work phone, I set off my smoke alarm.

I don't know why this is, it just seems to happen. Is there a way to remedy this? I have tried improving my ground with wires cut to the appropriate length spread across the room, but no luck. Would the MFJ 931 artificial ground help? Let me know what you think.

Jon - KB5IAV

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Date: 21 Aug 1994 11:04:12 GMT  
From: ihnp4.ucsd.edu!library.ucla.edu!europa.eng.gtefsd.com!news.umbc.edu!eff!wariat.org!malgudi.oar.net!infinet!wvanho@network.ucsd.edu  
Subject: Self-supporting masts  
To: ham-ant@ucsd.edu

: I would like to avoid using guy wires on the masts. Does anyone have some  
: ideas or experience with self-supporting small masts 20-25 ft. high? The

: "system" should: 1. be inexpensive, 2. fairly easy to put up, 3. use  
: readily available materials (eg. lumber yard, etc.). I have a nice  
: post-hole digger that will dig down 5 ft. I don't plan on mounting  
: anything else on these masts. Thanks in advance for any suggestions.

: 73 Mark KA3LFG

Mark -

I believe a wooden "H" beam made of a 2 x 4 with "flanges" of 1 x 4 would  
do the job nicely. Use construction grade glue, plus nails, to hold it  
together. To splice lengths of 2 x 4, I would use short pieces of 1 x 4  
on each side of the splice, glued and nailed. Also, be sure that the  
1 x 4 flanges are continuous over the splice in the 2 x 4.

Coat the bottom end, the part that will be buried, with liberal coatings  
of asphalt roofing compound. Paint the rest with several coats of house  
paint.

73,

Van - W8UOF

\* \* \* \* \*  
\* It ain't wot ya don't know 't gets ya into trouble. \*  
\* It's wot ya know 't ain't true. - "Mr. Dooley" \*  
\* \* \* \* \*

wvanho@infinet.com

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Date: Sun, 21 Aug 1994 08:51:14

From: ihnp4.ucsd.edu!usc!howland.reston.ans.net!wupost!udel!news.sprintlink.net!  
nnwexus!olympus.net!olympus.net!vaughnwt@network.ucsd.edu

Subject: SG-Smartuner

To: ham-ant@ucsd.edu

In article <3377pi\$nun@kantti.Helsinki.FI> mjokinen@cc.Helsinki.FI (Matti Jokinen)  
writes:

>QST reported the SG-230 Smartuner to be a good choice for an automatic  
>tuner. I am thinking of using it with an IC-735 rig and 15' backstay  
>longwire as the antenna in a sailing boat. Does anyone has experiences  
>of a similar installation or of that tuner in general?

>-----  
>Matti Jokinen

>Institute of Dentistry  
>University of Helsinki  
>Matti.Jokinen@helsinki.fi  
>-----

Matti, I have installed dozens of these critters on sailboats and I have never had a problem, before or after. Just be sure to seal all the cable entrances so that no water can enter the box. Be sure that no one is hanging on to the backstay while you are transmitting it really cuts down on your radiation, very bothersome you know. Also it would improve your radiation a lot if you installed a ground shoe. I don't know the technical term for this device (Gary Coffman probably does, sigh.) But it is a ground that attaches to your hull and is connected to your rf ground with a thru hull bolt. Get the largest one you are willing to stick on your hull. The shoe with approx. 15 sq ft of ground plane gives the best performance, price, size ratio. Good luck and be careful.

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Date: 22 Aug 1994 02:26:56 GMT  
From: ihnp4.ucsd.edu!usc!nic-nac.CSU.net!charnel.ecst.csuchico.edu!  
yeshua.marcam.com!news.kei.com!ssd.intel.com!chnews!scorpion.ch.intel.com!  
cmoore@network.ucsd.edu  
Subject: Should feedline length  
To: ham-ant@ucsd.edu

In article <93.2387.7581.0NFB2DFF@woodybbs.com>,  
Art Harris <art.harris@woodybbs.com> wrote:

>The SWR does not change with line length. >Art N2AH

Hi Art, sounds like you mean well but please reference the definition of SWR. The reflection coefficient is part of the definition of SWR and is defined as the square root of the reflected power divided by the forward power (measured at any point on a transmission line).

Assume a transmission line with 3db loss. Assume half the power at the antenna is reflected. The reflection coefficient at the antenna will be the square root of 1/2. The reflection coefficient at the transmitter will be the square root of 1/8. Clearly the SWR is different at the antenna and the transmitter. If you transmit 8 watts, 4 watts reach the antenna, 2 watts are reflected at the antenna, and one watt of reflected power reaches the transmitter end (assume that watt is not re-reflected). If my  $1+\rho/1-\rho$  math is correct the \_actual\_ SWR at the antenna is 5.8 and the \_actual\_ SWR at the transmitter is 2.1 and a properly functioning SWR meter will yield those SWR readings. Add another equal length of transmission line and the SWR measured at the transmitter will be 1.4

The SWR \_does\_ change with line length. If one doesn't believe it, one should replace the 70 ft. of RG-58 on a G5RV with the same electrical length of 9913... both 50 ohms. Especially on the higher frequency bands, the SWR at the transmitter end will measurably increase, the antenna tuner will work a little harder, and more power will be radiated. I know... that was my first step in improving my G5RV.

73, Cecil, KG7BK, 00TC (Not speaking for Intel)

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Intel, Corp.  
5000 W. Chandler Blvd.  
Chandler, AZ 85226

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Date: 21 Aug 1994 16:14:40 GMT  
From: ihnp4.ucsd.edu!sdd.hp.com!col.hp.com!bobw@network.ucsd.edu  
Subject: Should feedline length change the VSWR?  
To: ham-ant@ucsd.edu

Hank Riley (au156@yfn.ysu.edu) wrote:

<snip>

:

: These SWR \*truths\* are excerpted from the original series  
: of QST articles (beginning April 1973) entitled "Another Look at  
: Reflections" by Walt Maxwell, noted RCA space satellite antenna  
: designer. This incredibly well written and technically rigorous  
: debunking of SWR and transmission line myths was made into a book  
: which is available from the ARRL, as well as companion software.

:

I've got a copy of Maxwell's book and generally agree that its  
pretty good. There are a couple of things to watch out for

1. There was a significant errata sheet published after the book went into print. I believe it was printed in QST. I don't know if the book has been revised yet. Maxwell deserves credit for making the corrections public, as there is probably no book in print today that does not have some error in it.
2. Maxwell often assumes a conjugate match at the transmitter (generator). While this assumption is often true for transmitters operating at HF (with the use of antenna tuners and the like), most VHF/UHF transmitters have output impedances fixed at a nominal 50 ohms. (Yeah, I know, there is no perfect 50 ohms.)

Bob Witte / bobw@col.hp.com / Hewlett Packard PMO / KB0CY / (719) 590-3230

-----  
Date: 21 Aug 1994 16:06:13 GMT  
From: ihnp4.ucsd.edu!sdd.hp.com!col.hp.com!bobw@network.ucsd.edu  
To: ham-ant@ucsd.edu

References <32um8c\$8kq@jabba.cybernetics.net>, <wyn.135.2E5374FA@ornl.gov>,  
<332bp9\$1mc@hopscotch.ksr.com>  
Subject : Re: Should feedline length change the VSWR?

John F. Woods (jfw@ksr.com) wrote:

: wyn@ornl.gov (C. C. (Clay) Wynn, N4AOX) writes:  
: >As you undoubtedly know, all of those rules, principles, and laws are just  
: >abstract mathematical descriptions of relationships that one thinks one  
: >observes in nature. Sometimes they're accurate and longlasting, other times  
: >not.

: You are cordially invited to list concrete examples where classical E&M fails  
: to predict the behavior of antennas as used by hams, with special attention  
: to where it mistakenly predicts the purely classical effect called SWR. Assume  
: that one is running sufficient power that the classical approximation holds.

: >Try explaining RF  
: >propagation to an avant garde particle physicist using classical  
: >electromagnetic theory. In the end he may think you are talking folklore and  
: >you may think he is talking magic.

This is what makes the technical fields so interesting and challenging..  
knowing when/how/if to apply the right model to a problem. For example,  
someone writing microcontroller code would be hampered by (only) a detailed  
model of the microcontroller's switching transistors (too much detail  
in the model for the problem at hand). On the other extreme, the  
designer of the switching transistor probably needs a darn good model  
for the subtle effects that can occur. And the person who developed  
the semiconductor fab process probably needs a model on a different  
level.

No one model is "right". On the other hand, if the software designer  
starts blaming coding defects on, say, breakdown of the gate oxide  
of the transistor, look out :-)

Bob Witte / bobw@col.hp.com / Hewlett Packard PMO / KB0CY / (719) 590-3230

-----  
Date: Sun, 21 Aug 1994 23:02:16 +0000  
From: ihnp4.ucsd.edu!swrinde!pipex!demon!arkas.demon.co.uk!

Michael@network.ucsd.edu  
To: ham-ant@ucsd.edu

References <6e.1661.719.0N666898@cencore.com>, <332quu\$11h@ornews.intel.com>,  
<1994Aug20.174007.11384@ke4zv.atl.ga.us>  
Reply-To : Michael@arkas.demon.co.uk  
Subject : Re: Does 73 Magazine have

Ham Radio magazine. Haven't picked up a copy for years. Is it still published?

--  
Michael J Dower

'Quoth the raven, "Never more".' ... Poe

-----  
Date: 21 Aug 1994 22:21:03 GMT  
From: ihnp4.ucsd.edu!sdd.hp.com!col.hp.com!csn!yuma!galen@network.ucsd.edu  
To: ham-ant@ucsd.edu

References <330m0d\$abh@ornews.intel.com>, <6e.1661.719.0N666898@cencore.com>,  
<332quu\$11h@ornews.intel.com>  
Subject : Publishing (was Re: Does 73 Magazine have

In article <332quu\$11h@ornews.intel.com> zardoz@ornews.intel.com (Jim Garver)  
writes:

>I don't think  
>QST would publish my stuff because they don't have room and are too picky.  
>I'm not a contesteer so CQ is out. That leaves Wayne's rag.

You forgot Internet. Publish it here. No editors!  
Maybe fax diagrams to those who want them.

Galen, KF0YJ

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Date: Mon, 22 Aug 1994 04:13:33 GMT  
From: ihnp4.ucsd.edu!swrinde!howland.reston.ans.net!sol.ctr.columbia.edu!  
news.kei.com!ub!freenet.buffalo.edu!aa450@network.ucsd.edu  
To: ham-ant@ucsd.edu

References <330m0d\$abh@ornews.intel.com>, <6e.1661.719.0N666898@cencore.com>,  
<332quu\$11h@ornews.iu  
Reply-To : aa450@freenet.buffalo.edu (Kurt Rieder)  
Subject : Re: Does 73 Magazine have



In a previous article, Michael@arkas.demon.co.uk (Michael J Dower) says:

>Ham Radio magazine. Haven't picked up a copy for years. Is it still published?

>

>--

>Michael J Dower

>

'Quoth the raven, "Never more".' ... Poe

>

No, not for 3 -4 years. The key person died suddenly and shortly thereafter the staff started to peel away. Finally, the publication together with all the rights were sold to CQ magazine. At the time it was said that CQ would carry on the tradition... what a joke that was.

I thought it was a great publication, have about 90 % of the issues, and still use them.

Kurt

--

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Date: Mon, 22 Aug 1994 01:44:57 GMT

From: ihnp4.ucsd.edu!swrinde!emory!wa4mei!ke4zv!gary@network.ucsd.edu

To: ham-ant@ucsd.edu

References <332quu\$11h@ornews.intel.com>,

<1994Aug20.174007.11384@ke4zv.atl.ga.us>, <777510136snz@arkas.demon.co.uk>

Reply-To : gary@ke4zv.atl.ga.us (Gary Coffman)

Subject : Re: Does 73 Magazine have

In article <777510136snz@arkas.demon.co.uk> Michael@arkas.demon.co.uk writes:

>Ham Radio magazine. Haven't picked up a copy for years. Is it still published?

Sadly, no. CQ bought it and closed it. All they wanted was to assume the subscriber list to temporarily boost their circulation figures and enhance ad revenue. I suspect few \_Ham Radio\_ subscribers renewed CQ after their subscriptions ran out.

CQ did throw us a sop though. They publish \_Communications Quarterly\_. As the name suggests, it comes out 4 times a year, and it's of moderately good technical quality. About the best US amateur publication still in print as a matter of fact. Of course the \$9.95 cover price is somewhat off putting.

If your interest in radio is even moderately technical, your best bet is to subscribe to the RSGB magazine, or if you read Japanese, to the Japanese \_Ham Radio\_ magazine. Both are much superior to any of the remaining US publications.

That leads me to a question for our non-US readers. What is the best amateur radio magazine in the world? Capsule reviews of non-US magazines would be most welcome.

Gary

--

Gary Coffman KE4ZV		You make it,		gatech!wa4mei!ke4zv!gary
Destructive Testing Systems		we break it.		uunet!rsiatl!ke4zv!gary
534 Shannon Way		Guaranteed!		emory!kd4nc!ke4zv!gary
Lawrenceville, GA 30244				gary@ke4zv.atl.ga.us

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End of Ham-Ant Digest V94 #274  
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